

Date: Tuesday, 11/29/2005 6:50:17 PM
User: Linda Lacelle

Process Sheet

Customer : CU-DAR001 Dart Helicopters Services
Job Number : 25037
Estimate Number : 10699
P.O. Number : N/A
This Issue : 11/29/2005 S.O. No. : N/A
Prsht Rev. : NC
First Issue : N/A Type : LANDING GEAR
Previous Run : N/A
Written By : SEE ABOVE USER & DATE
Checked & Approved By :
Comment : Created By Auto Work Order

Drawing Name : AFT TUBE ASSEMBLY
Part Number : D3391025
Drawing Number : D3391 REV B
Project Number : N/A
Drawing Revision : B
Material : N/A
Due Date : 12/20/2005 Qty: 5 Um: Each

Additional Product

Job Number:



Seq. #: Machine Or Operation: Description:

1.0 D6014090 ALUMINUM EXTRUSION



Comment: Qty.: 1.0000 f(s)/Unit Total: 4.0000 f(s)

ALUMINUM EXTRUSION

Pick:

Qty Part Number Description Batch
1 D6014-000 Extrusion B243153

Identify as D3391-3

Tools:

2.0 MORI SEIKI MORI SEIKI CNC LATHE LARGE



Comment: MORI SEIKI CNC LATHE LARGE

Turn as per Folio FA Rev: AA & Dwg D3391 Rev: B

Tools:

3.0 QC2 INSPECT PARTS AS THEY COME OFF MACHINE



Comment: INSPECT PARTS AS THEY COME OFF MACHINE

Tools:

4.0 BAND SAW HAAS BAND SAW



Comment: BAND SAW HAAS

Machine as per Folio FA Rev: AA & Dwg D3391 Rev: C

Drill aft cap holes per Dwg D3391 using DT8803

Deburr

Tools:

W/O:		WORK ORDER CHANGES								
DATE	STEP	PROCEDURE CHANGE				By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes ☒ No ☐ DQA: *PD* Date: 26/04/10
 QA: N/C Closed: _____ Date: _____

NCR: WORK ORDER NON-CONFORMANCE (NCR)									
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector	
			Initial Chief Eng	Action Description Chief Eng	Sign & Date				

NOTE: Date & initial all entries

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: AFT TUBE ASSEMBLY

Job Number: 25037

Part Number: D3391025

Job Number:



Seq. #:

Machine Or Operation:

Description:

5.0

QC2

INSPECT PARTS AS THEY COME OFF MACHINE



Comment: INSPECT PARTS AS THEY COME OFF MACHINE

BC 05.12.23

5

Tools:

6.0

QC8

SECOND CHECK



Comment: SECOND CHECK

SA 05.12.23

5

Tools:

7.0

BRAKE NC

NC BRAKE



Comment: NC BRAKE

Form as per Dwg D3391

DP 06-1-13

5

Tools:

8.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

06.03.23
See Attached
E-mail.

Split

Tools:

9.0

LANDING GEAR 1

LANDING GEAR RESOURCE 1



Comment: LANDING GEAR RESOURCE 1

Drill and c' sink wearshoe holes as per Dwg D3391

C'sink holes for float bag (4 holes per side) as per Dwg D3391

Deburr

DP 06-3-23

3

Tools:

10.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

06.03.23

Tools:

11.0

HAND FINISHING1

HAND FINISHING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1

Acid etch and Alodine as per QSI 005 4.1

RT 06-07-23

Tools:

W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Tuesday, 11/29/2005 6:50:17 PM
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Job Number: 25037

Part Number: D3391025

Job Number:



Seq. #:

Machine Or Operation:

Description :

12.0

AESS10KB366

Inventory



Comment: Qty.: 14.0000 Each(s)/Unit Total: 56.0000 Each(s)

Insert

Pick:

Qty	Part Number	Description	Batch
14	AESS10KB366	Insert	M17905 /

Tools:

13.0

AESS10KB166

INSERT



Comment: Qty.: 8.0000 Each(s)/Unit Total: 32.0000 Each(s)

INSERT

Pick:

Qty	Part Number	Description	Batch
8	AESS10KB166	Insert	M19354 /

Tools:

14.0

AESS10KB266

INSERT



Comment: Qty.: 2.0000 Each(s)/Unit Total: 8.0000 Each(s)

INSERT

Pick:

Qty	Part Number	Description	Batch
2	AESS10KB266	Insert	M17905 M17905 /

Tools:

15.0

AESS10KB316

INSERT



Comment: Qty.: 2.0000 Each(s)/Unit Total: 8.0000 Each(s)

INSERT

Pick:

Qty	Part Number	Description	Batch
2	AESS10KB316	Insert	M17905

DC 06/04/04 (3)

Tools:

16.0

SMALL FAB 1

SMALL & MEDIUM FAB RESOURCE 1



Comment: SMALL & MEDIUM FAB RESOURCE 1
Install inserts and Aft Cap as per Dwg D3391

DC 06/04/04 (3)

Tools:

W/O:		WORK ORDER CHANGES							
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector		

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: AFT TUBE ASSEMBLY

Job Number: 25037

Part Number: D3391025

Job Number:



Seq. #: Machine Or Operation: Description :

17.0 QC5 INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

ml 06 04/03 (3)

Tools:

18.0 POWDER COATING POWDER COATING



Comment: POWDER COATING
Powder Coat White Gloss (Ref: 4.3.5.1) as per QSI 005 4.3

Tools:

ml DL 06/03/23 (5)

19.0 QC3 INSPECT POWDER COAT/CHEMICAL CONVERSION



Comment: INSPECT POWDER COAT/CHEMICAL CONVERSION

TC 06 03 23 (3)

Tools:

20.0 D2646 Aft Cap



Comment: Qty.: 1.0000 Each(s)/Unit Total: 4.0000 Each(s)

Aft Cap

Pick:

Qty	Part Number	Description	Batch
1	D2646	Aft Cap	<i>B23370B</i>

Tools:

21.0 AN3C4A Bolt



Comment: Qty.: 2.0000 Each(s)/Unit Total: 8.0000 Each(s)

Bolt

Pick:

Qty	Part Number	Description	Batch
2	AN3C4A	Bolt	<i>M19185</i>

Tools:

22.0 AN960C10L Inventory



Comment: Qty.: 2.0000 Each(s)/Unit Total: 8.0000 Each(s)

Inventory

Pick:

Qty	Part Number	Description	Batch
2	AN960C10L	Washer	<i>M18822</i>

ml DL 06/04/04 (3)

W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Process Sheet

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Job Number: 25037

Part Number: D3391025

Job Number:



Seq. #:

Machine Or Operation:

Description:

Tools:

23.0

NAS1515H3L

WASHER



Comment: Qty.: 2.0000 Each(s)/Unit Total: 8.0000 Each(s)

WASHER

Pick:

Qty	Part Number	Description	Batch
2	NAS1515H3L	Washer	m19185

Tools:

24.0

SMALL FAB 1

SMALL & MEDIUM FAB RESOURCE 1



Comment: SMALL & MEDIUM FAB RESOURCE 1

Install Aft Cap as per Dwg D3391

A/R

Sikaflex-241/-291

Sikaflex expiry date:

Identify as D3391-025

Tools:

25.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

Tools:

26.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify and Stock

Location:

Tools:

27.0

DC

DOCUMENT CONTROL



Comment: DOCUMENT CONTROL

Inspection Level 21

Tools:

Job Completion



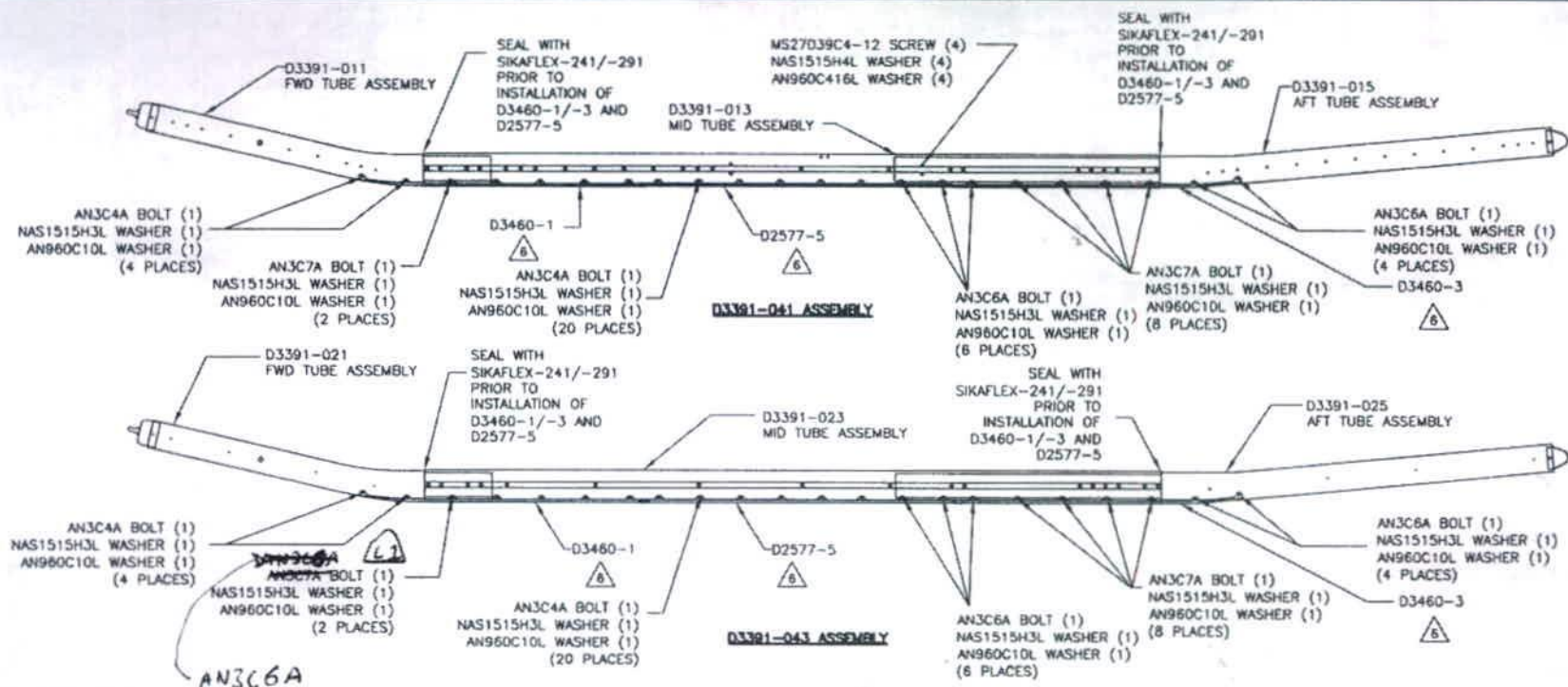
W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



D3391-041/-043 FLOAT SKIDTUBE ASSEMBLY PARTS LIST

QTY - 041	QTY - 043	PART NUMBER	DESCRIPTION
X	X	D3391-041	FLOAT SKIDTUBE ASSEMBLY
		D3391-043	FLOAT SKIDTUBE ASSEMBLY
1		D3391-011	FWD TUBE ASSEMBLY
1		D3391-013	MID TUBE ASSEMBLY
1		D3391-015	AFT TUBE ASSEMBLY
	1	D3391-021	FWD TUBE ASSEMBLY
	1	D3391-023	MID TUBE ASSEMBLY
	1	D3391-025	AFT TUBE ASSEMBLY
24	24	AN3C4A	BOLT
10	10	AN3C6A	BOLT
10	10	AN3C7A	BOLT
44	44	NAS1515H3L	WASHER
44	44	AN960C10L	WASHER
4	4	MS27039C4-12	SCREW
4	4	NAS1515H4L	WASHER
4	4	AN960C416L	WASHER
1	1	D2577-5	WEARSHOE
1	1	D3460-1	WEARSHOE
1	1	D3460-3	WEARSHOE

GENERAL NOTES

- 1) ALL DIMENSIONS ARE IN INCHES
- 2) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 3) FINISH: ACID ETCH AND ALODINE PER DART QSI 005 4.1
POWDER COAT WHITE (4.3.5.1) PER DART QSI 005 4.3
- 4) SPRAY INSIDE OF TUBE WITH A COAT OF LPS LABORATORIES "LPS-3" AFTER FINISH AND AFTER INSTALLATION OF INSERTS. COAT ALL EXPOSED FASTENERS WITH LPS LABORATORIES "LPS PROCYON" AFTER FINAL ASSEMBLY. CLEAN EXCESS OFF POWDER COATING WITH MEK DEGREASER.
- 5) USE DART DRILL TEMPLATE DT8217 TO LOCATE AND DRILL "E" SIZE HOLES (#0.250-#0.256) FOR WEARSHOE INSERTS.
C'SINK #0.391/#0.425 x 100" AS APPLICABLE AND INSTALL INSERTS EXCEPT WHERE INDICATED.
- 6) APPLY A LAYER OF SIKAFLEX -241/-291 ADHESIVE BETWEEN THE BOTTOM OF THE SKIDTUBE ASSEMBLY AND THE WEARPLATES

RELEASED

05-11-14

#

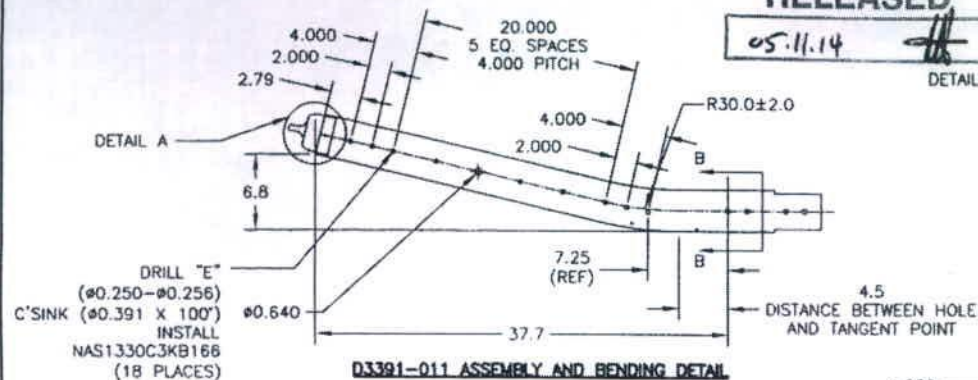
CHANGE BOLT LENGTH (5-11-14)

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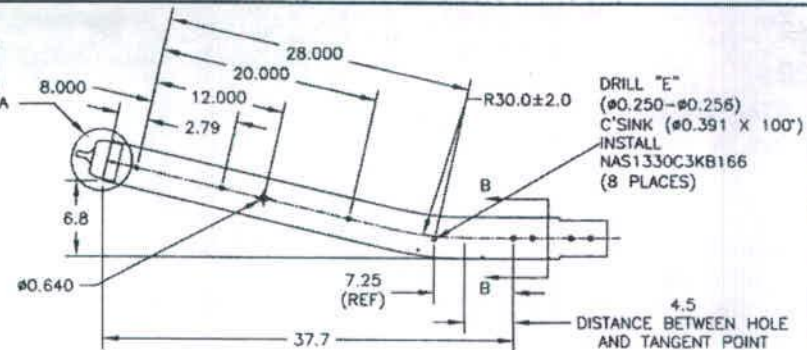
C	05.09.27	LENGTHEN AFT EXTENSION
B	05.06.10	DRAWING UPDATES
A	05.02.07	NEW ISSUE
DESIGN	PH	DART AEROSPACE USA, INC.
CHECKED	PH	PORT HADLOCK, VA
DATE	05.09.27	DRAWING NO. D3391
		SHEET 1 OF 5
		SCALE
		412 FLOAT SKIDTUBE
		WTS

61

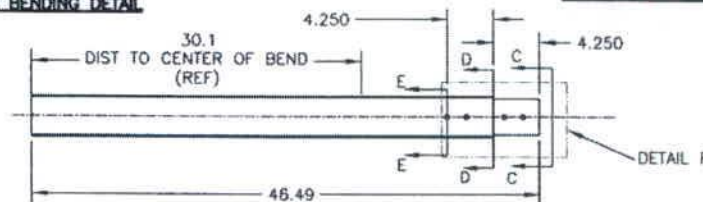
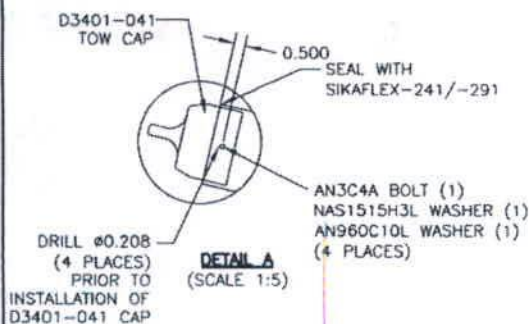
05.11.14



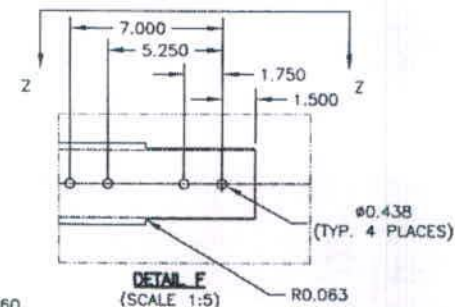
D3391-011 ASSEMBLY AND BENDING DETAIL



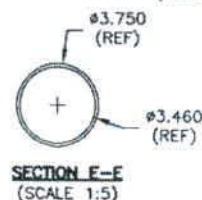
D3391-021 ASSEMBLY AND BENDING DETAIL



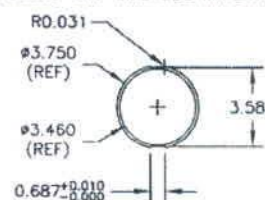
D3391-1 DRILLING AND CUTTING DETAIL
(MAKE FROM D6013-047 SKIDTUBE MATERIAL)



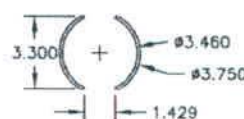
DETAIL F
(SCALE 1:5)



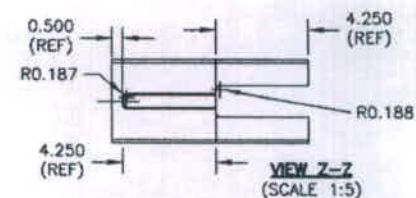
SECTION E-E
(SCALE 1:5)



SECTION D-D
(SCALE 1:5)



SECTION C-C
(SCALE 1:5)



VIEW Z-Z
(SCALE 1:5)

D3391-011/-021 FWD TUBE ASSEMBLY PARTS LIST

QTY - 011	QTY - 021	PART NUMBER	DESCRIPTION
X		D3391-011	FWD TUBE ASSEMBLY
	X	D3391-021	FWD TUBE ASSEMBLY
1	1	D6013-047	FWD TUBE
1	1	D3401-041	TOW CAP
4	4	AN3C4A	BOLT
4	4	NAS1515H3L	WASHER
4	4	AN960C10L	WASHER
24	14	NAS1330C3KB186	INSERT

 DRILL "E"
 (Ø0.250-Ø0.256)
 C'SINK (Ø0.391 X 100")
 INSTALL
 NAS1330C3KB166
 (6 PLACES)




SECTION B-B
(SCALE 1:5)

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DESIGN

PH
CHECKED <i>[Signature]</i>
DATE 05.09.27

Circuits 157

	PH
APPROVED	

DART

DRAWING NO.
D3391

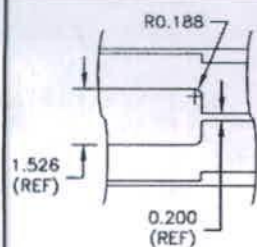
DART AEROSPACE USA, INC.

1000

SHEET 2 OF 2

2004

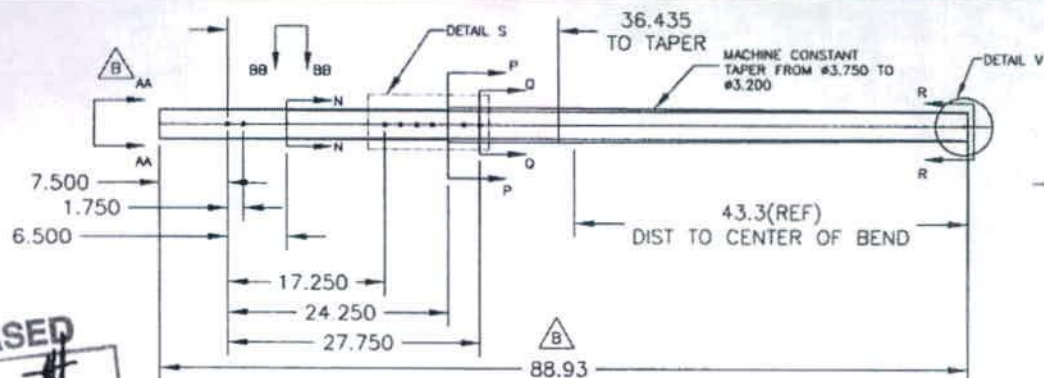
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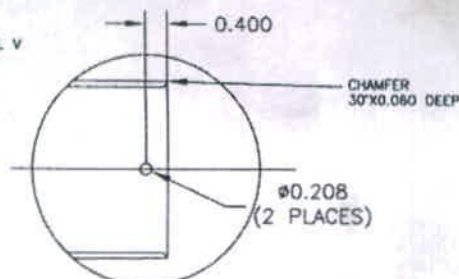
VIEW BB-BB
(SCALE 1:3)

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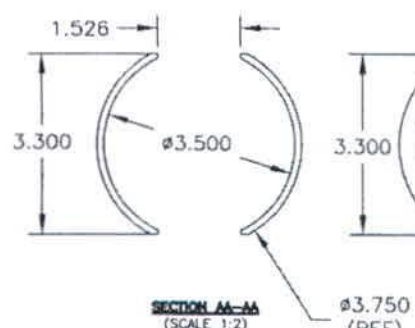
05-11-14



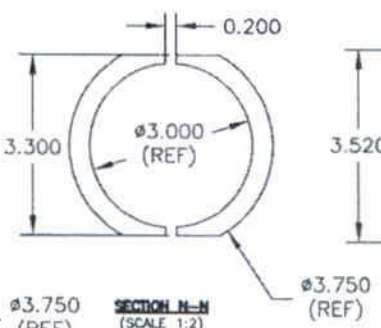
03391-1 AFT DRILLING AND CUTTING DETAIL
(MAKE FROM D6014-090 SKIDTUBE MATERIAL)



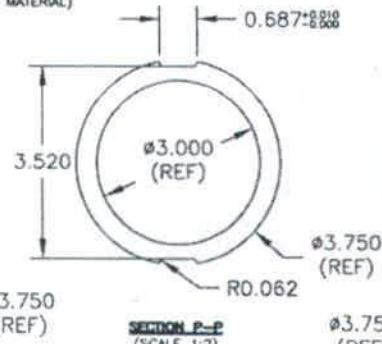
DETAIL V
(SCALE 1:2)



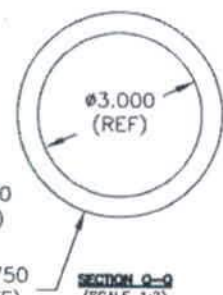
SECTION AA-AA
(SCALE 1:2)



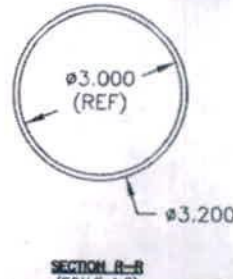
SECTION NN-NN
(SCALE 1:2)



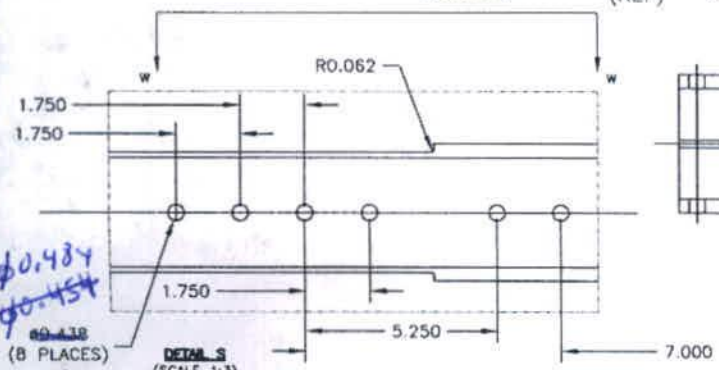
SECTION PP-PP
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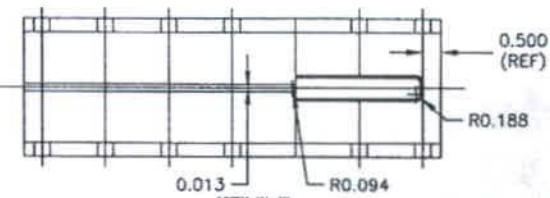
SECTION QQ-QQ
(SCALE 1:2)



SECTION RR-RR
(SCALE 1:2)



DETAIL S
(SCALE 1:3)

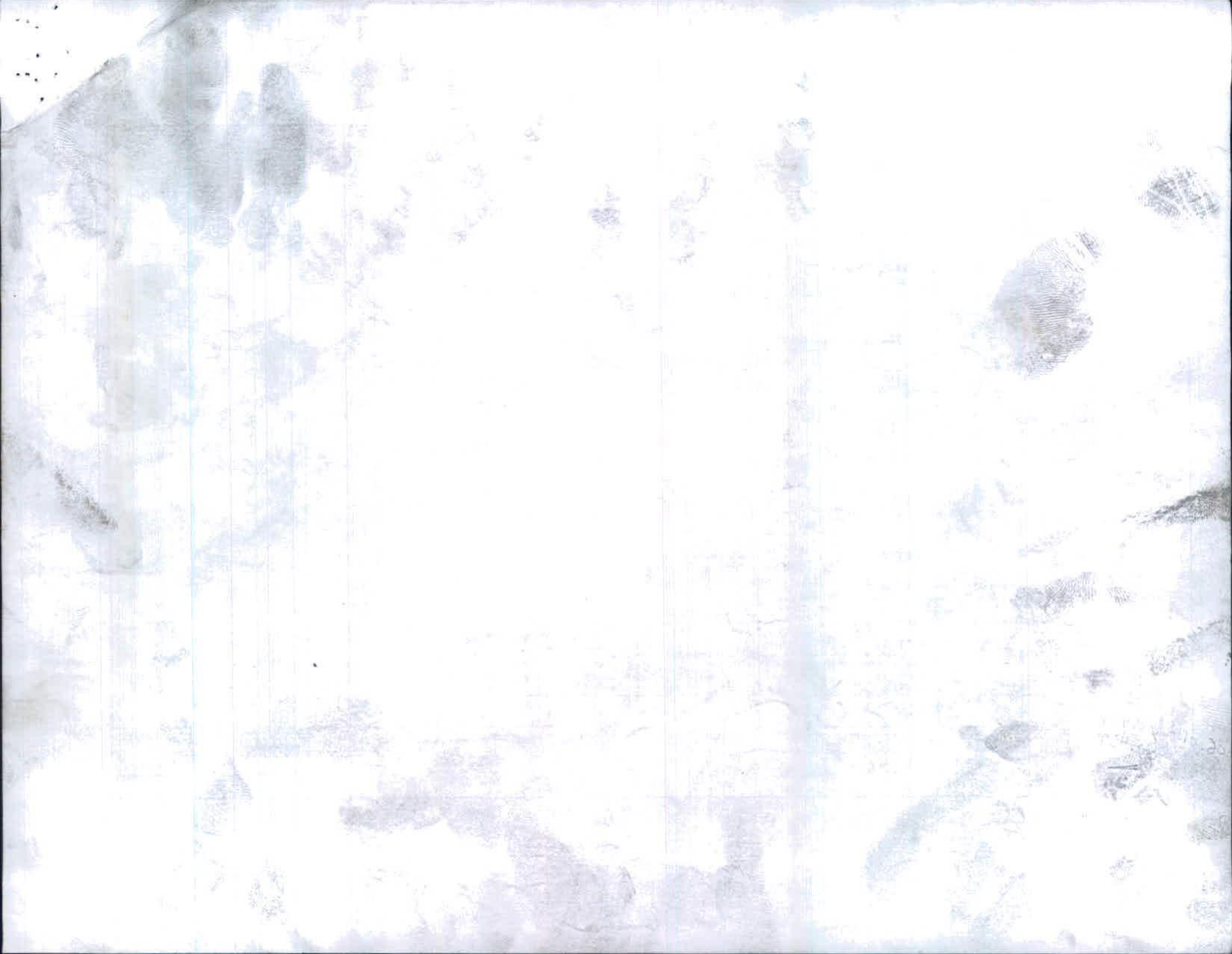


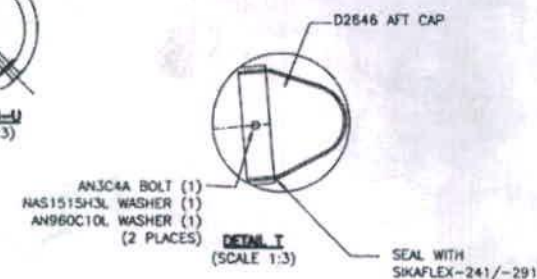
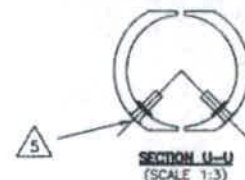
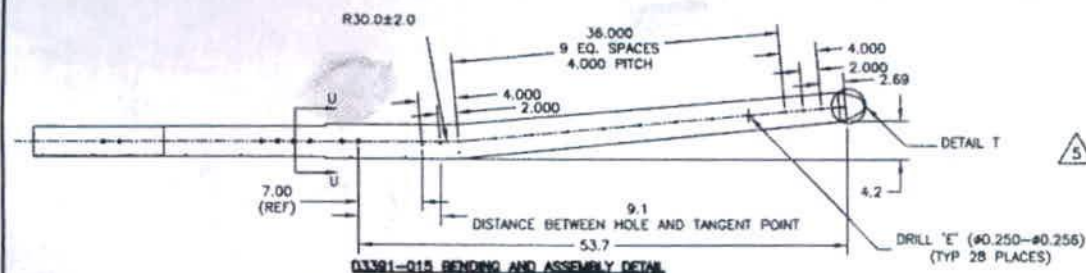
VIEW W-W
(SCALE 1:3)

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DESIGN	PH	DRAWN BY	PH	DART DART AEROSPACE USA, INC. PORT HARBOR, WA	REV. C
CHECKED	PH	APPROVED	PH	DRAWING NO. D3391	SHEET # OF 5
DATE	05.09.27	TITLE	412 FLOAT SKIDTUBE	SCALE	1:12

PH
06.01.12
Ø0.484
Ø0.454
Ø0.438
(8 PLACES)
PH
06.01.03





C'SINK AND INSTALL AES510KB366 AND/OR
NAS1330C3KB316 IN HOLES MARKED CS1-CS6 AS
FOLLOWS

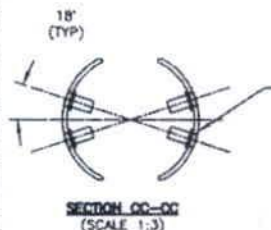
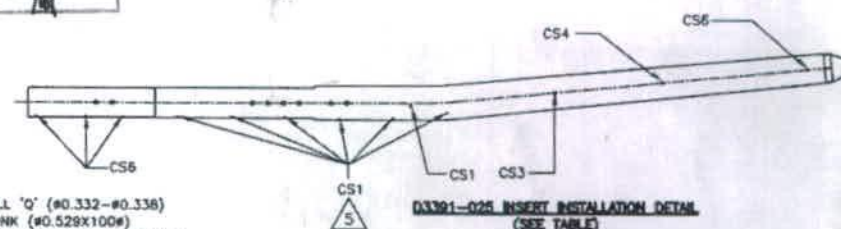
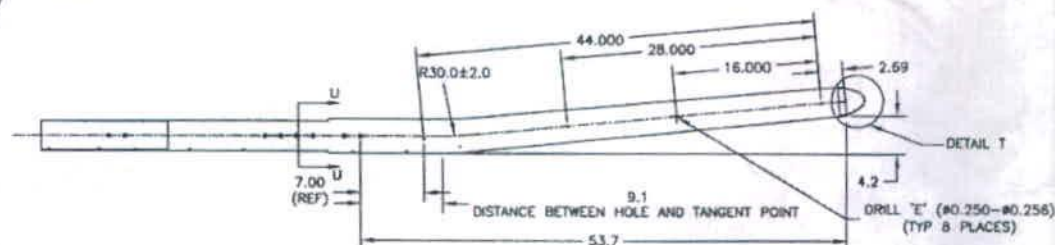
HOLES MARKED	QTY D3391-015	QTY D3391-025	C'SINK	P/N
CS1	18	14	Ø0.425	AES510KB366
CS2	4		Ø0.391	AES510KB366
CS3	4	2	Ø0.391	NAS1330C3KB316
CS4	4	2	Ø0.391	NAS1330C3KB266
CS5	4		Ø0.391	NAS1330C3KB216
CS6	12	8	Ø0.391	NAS1330C3KB166

D3391-015/-025 AFT TUBE ASSEMBLY PARTS LIST

QTY - 015	QTY - 025	PART NUMBER	DESCRIPTION
X		D3391-015	AFT TUBE ASSEMBLY
	X	D3391-025	AFT TUBE ASSEMBLY
1	1	D6014-090	AFT TUBE
1	1	D2648	AFT CAP
18	14	AES510KB366	INSERT
4	2	NAS1330C3KB316	INSERT
4	2	NAS1330C3KB266	INSERT
4		NAS1330C3KB216	INSERT
12	8	NAS1330C3KB166	INSERT
4		NAS1330C4KB151	INSERT
2	2	AN3C4A	BOLT
2	2	NAS1515H3L	WASHER
2	2	AN960C10L	WASHER

RELEASED

05-11-14



DRILL "Q" (#0.332-#0.336)
C'SINK (#0.529X100#)
NAS1330C4KB151 INSERT (1)
(4 PLACES)

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DESIGN PH	DRAWN BY PH	DART DART AEROSPACE USA, INC. PORT WASHINGTON, WA	REV. C
CHECKED PH	APPROVED PH	DRAWING NO. D3391	SHEET 5 OF 5
DATE 05.09.27	TITLE 412 FLOAT SKIDTUBE	SCALE 1:12	

Jason Murdoch

From: David Shepherd [davids@dartaero.com]
Sent: March 7, 2006 10:38 AM
To: Jason Murdoch
Subject: Re: tri-beam

Jason,

I think the two tubes you are describing below are acceptable.

David

----- Original Message -----

From: Jason Murdoch
To: davids@dartaero.com
Sent: Tuesday, February 28, 2006 1:53 PM
Subject: tri-beam

How's it going down there?

Peter was supposed to get an answer on 2 D3391-025 aft tube sections that were over bent. The parts are already machined and bent. As per the dwg, the height is 4.2" + - .250, but 2 tubes are 4.6875 (11/16"). To me they are over bent, but I was wondering if by chance they were acceptable. If they aren't then we will have to machine and bend some more and re adjust the bend program.

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Q.C. Inspector

